

Name: \_\_\_\_\_

## Q4 Test 3 Review Sheet

Date: \_\_\_\_\_

PreCalculus

Evaluate each limit.

1.  $\lim_{x \rightarrow 1} (x^2 - 4x + 1)$

12.  $\lim_{x \rightarrow -1} \frac{1+x}{\sqrt{x+1}}$

23.  $\lim_{x \rightarrow \infty} \sqrt{\frac{32x+1}{2x-1}}$

2.  $\lim_{x \rightarrow 0} (3^x + \frac{1}{3^x} - x)$

13.  $\lim_{x \rightarrow 3} \frac{9-x^2}{5-\sqrt{x^2+16}}$

24.  $\lim_{x \rightarrow \infty} 5 - \frac{4}{x^4}$

3.  $\lim_{x \rightarrow 0} \frac{(1+x)^2 - 1}{x}$

14.  $\lim_{x \rightarrow 16} \frac{4-\sqrt{x}}{16-x}$

For questions 25 – 35, use the graph of  $f(x)$  provided below.

4.  $\lim_{x \rightarrow -1} \frac{x+1}{x+2}$

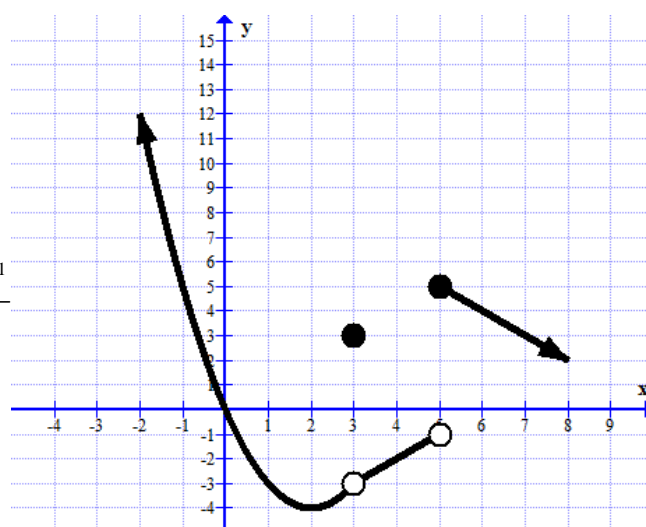
15.  $\lim_{x \rightarrow -5} \frac{\frac{1}{x} + \frac{1}{5}}{5+x}$

5.  $\lim_{x \rightarrow 2} \frac{x^2 - 9}{x^3 - 27}$

16.  $\lim_{x \rightarrow 0} \frac{6^{-1} - (6+x)^{-1}}{x}$

6.  $\lim_{x \rightarrow 3} \frac{x^2 - 9}{x - 3}$

17.  $\lim_{x \rightarrow 0} \frac{x}{(4+x)^2 - 16}$



7.  $\lim_{x \rightarrow 4} \frac{\sqrt{x} - 2}{4 - x}$

18.  $\lim_{x \rightarrow \infty} \frac{x}{x^2 - 1}$

25.  $\lim_{x \rightarrow \infty} f(x)$

8.  $\lim_{x \rightarrow -1} \sqrt{x^2 - 1}$

19.  $\lim_{x \rightarrow \infty} \frac{x^3}{x^2 - 1}$

26.  $\lim_{x \rightarrow -\infty} f(x)$

9.  $\lim_{x \rightarrow 0} \frac{x^4}{x^3 + 1}$

20.  $\lim_{x \rightarrow \infty} \frac{2x^2}{x^2 - 1}$

27.  $\lim_{x \rightarrow 3^-} f(x)$

10.  $\lim_{x \rightarrow -1} \frac{x^2 + 4x + 3}{x^2 + 5x + 4}$

21.  $\lim_{x \rightarrow -\infty} \frac{4-x}{x^3 + 1}$

28.  $\lim_{x \rightarrow 3^+} f(x)$

11.  $\lim_{x \rightarrow 1} \frac{1-x}{\sqrt{x}-1}$

22.  $\lim_{x \rightarrow -\infty} (x-3)^{-2}$

29.  $\lim_{x \rightarrow 3} f(x)$

30.  $f(3)$

31.  $\lim_{x \rightarrow 5^-} f(x)$

32.  $\lim_{x \rightarrow 5^+} f(x)$

33.  $\lim_{x \rightarrow 5} f(x)$

34.  $f(5)$

35.  $\lim_{x \rightarrow 0} f(x)$